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EXAMINER

AGDEPPA, HECTOR A

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 19

Application Number: 09/172,362
Filing Date: October 14, 1998
Appellant(s): DEZONNO, ANTHONY J.

Jon P. Christensen
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/24/03.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement that no related appeals and interferences will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The Appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 1-24 stand or fall together because Appellant's brief includes a statement that this grouping of claims stands or falls together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

5,546,456	VILSOET ET AL	8-1996
5,155,763	BIGUS ET AL	10-1992

5,864,617	DONNELLY	1-1999
5,978,465	CORDUROY ET AL	11-1999

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. Because Appellant has only addressed claim 1 in the appeal brief, examiner will only discuss the grounds of rejection to claim 1.
2. For claims 2, 4 – 11, 13 – 20, and 22 - 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Vilsoet et al. (U.S. Patent Number: 5,546,456) in view of Bigus et al. (U.S. Patent Number 5,155,763) and further in view of Donnelly (U.S. Patent Number 5,864,617), the rejection is set forth in prior Office Action, Paper No. 16, pages 2 - 4.
3. For claims 3, 12, and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Vilsoet et al. (U.S. Patent Number: 5,546,456) and Bigus et al. (U.S. Patent Number 5,155,763) and Donnelly (U.S. Patent Number 5,864,617) and further in view of Corduroy et al. (U.S. Patent Number: 5,978,465), the rejection is set forth in prior Office Action, Paper No. 16, pages 4 - 5.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vilsoet et al. (U.S. Patent Number: 5,546,456) in view of Bigus et al. (U.S. Patent Number 5,155,763) and further in view of Donnelly (U.S. Patent Number 5,864,617).

Regarding claim 1, Vilsoet et al. discloses a method of processing calls in an automatic call distributor (ACD 12 in Fig. 1), such method comprising the steps of: learning a set of desired resource relationships for servicing a plurality of call processing load conditions in the automatic call distributor (column 4, lines 53 to 58); and distributing resources of the automatic call distributor based upon call processor loading and the learned set of resource relationships (column 4, lines 32 to 52).

Moreover, Vilsoet et al. teaches, for example, that its predictive outdial application considers the number of agents available to take or make calls and agents connections and completions are monitored so as to maximize agent efficiency. Such monitoring of agent activity clearly suggests that call processing, i.e., inbound call connection and outdialing is based upon an agent resource. (Col. 7, lines 1 – 59 of Vilsoet et al.) Obviously, a call cannot be completed or dialed if an agent is not available to service that call. Therefore, while Vilsoet et al. not only teaches considering agent distribution, but also considers call waiting time, queue size, etc. It does in fact still teach the distribution of resources (agents) based upon changing call processing loading/conditions.

Also, Vilsoet et al. teaches a means and method for “automatically distributing BOTH inbound AND outdialed calls to an agent at an agent telephonic unit.” (Col. 2, lines 43 – 44). And again, therefore, agents must be resource that Vilsoet et al.

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distributes and considers. Because an aspect of the Vilsoet et al. invention is to maximize agents' efficiency when they are handling outdialed calls as well as incoming calls (or even being connected to a call once it has been outdialed), such suggests that Vilsoet et al. seeks to maximize use of its agent resources which is read as the claimed "distributing resources" as well as "a set of desired resource relationships" by considering such factors as mentioned above.

Furthermore, it is extremely old, well known, and taught by Vilsoet et al. that ACD and call distributor systems shift agents from different calling campaigns or from inbound to outbound campaigns to maximize efficiency. See the discussion of how the Vilsoet et al. system improves over prior systems. (Col. 1, line 6 – Col. 2, line 34). The motivation for such a feature is obvious in that resources (agents) are being wasted if for example, a large number of agents in one calling campaign are not handling calls due to a lack of calls relating to that specific campaign while a smaller number of agents assigned to another campaign cannot service all the calls due to a higher call rate relating to that campaign and calls must be missed, queued longer, etc. all resulting in the potential for lost business.

What Vilsoet et al. does not disclose is a neural network.

However, as admitted by Appellant on p. 9 of the specification for the present invention, and as taught in Bigus et al. (U.S. Patent Number 5,155,763) in the abstract ("A predictive dialing system... call records are analyzed by a neural network to determine a relationship... as part of the training process..."), and Donnelly (U.S. Patent Number 5,864,617) in Fig. 18 and Col. 5, lines 15 – 16 (Fig. 18 illustrates the use of a

neural network...”), neural networks are commonly used in telecommunications networks because they afford a platform that can learn, react, and provide more exact call routing/call feature execution. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the system and method taught by Vilsoet et al. implemented in a neural network setting in place of a conventional switching/data network because a neural network platform would have advantages over a conventional switched network such as the above-discussed learning aspect taught by Vilsoet et al.

Furthermore, if a system "learns" a set of desired relationships, then of course, training occurs as well. In order for a system to "learn", that system must monitor, analyze, absorb, and ultimately learn how to properly react to those certain aspects of the system that are to be "learned." This is in effect training.

At the very least, such an operating manner is close to how a neural network operates. See Col. 5, lines 24 – 29 of Vilsoet et al. wherein it is taught that the ACD “stores in its memory statistical information... over a period of time.” And from the information gathered over that period of time “learns” how to react and “train” itself into reacting appropriately. If Vilsoet et al. merely reacted immediately without taking in information “over a period of time” perhaps it could be argued that no learning or training is taught, but such is clearly not the case.

Claim 1 of the present invention is also claimed as training a neural network with a set of resource relationships according to call processing conditions and distributing those resources. Such a claim, as already discussed above is read upon by Vilsoet et

al. and Appellant's admission of the use of neural networks as well as by Bigus et al. and Donnelly since a neural network is not claimed in any sort of detailed fashion and whose operation can be likened to that of Vilsoet et al., and since "resource relationships" and "distributing resources" too are extremely broad limitations having many possible interpretations

(11) Response to Argument

As to Appellant's argument A regarding claim 1, examiner refers the Board to page 5 of the Appellant's appeal brief wherein Appellant states "from the description of the invention and Responses, the resources distributed by the ACD are the agents of the ACD." [Emphasis added] Firstly, it is noted that the features upon which Appellant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Of course, a "call" cannot be a "resource" as correctly noted by Appellant. However, Vilsoet et al. does not in fact teach that the "resources" are calls but rather what Appellant has noted, for example, "the number of agent units signed into the system," or the "total number of agents available to receive calls." (p. 6 of Appellant's appeal brief) While it is the calls that are being distributed to the agent units, agents themselves are the "resource" that must be optimized to serve calls according to various factors such as the number of available agents, call waiting time, etc. Appellant has argued that the instant invention is distinguished from Vilsoet et al. because Vilsoet et

al. deals only with calls and not agents. However, just as taught by Vilsoet et al. which uses an ACD to distribute calls to agents, the instant invention as well uses an ACD to distribute calls to agents.

Also, Appellant makes the assertion that the claims of the instant invention are "limited to the distribution of resources based upon call processor loading." Vilsoet et al. teaches that "the ACD 12 continuously sends information relating to changing call processing conditions at the switch 14.... This information is needed... to effectively predict the optimum outdial calling procedure." (Col. 4, lines 32 – 48) Clearly, call processing conditions can be read as the claimed "call processor loading" and so in fact, Vilsoet et al. reads on the present invention.

The Bigus and Donnelly references were used merely to show the obviousness of using a neural network in a call distribution system and how closely related, if not exactly, the functionality of the Vilsoet et al. system is to those systems that actually teach the use of a neural network.

See also Newton's Telecom Dictionary p. 538 (Appellant's submission in the response filed on 1/25/01) describing how a neural network learns over a period of time. Vilsoet et al. clearly teaches the same aspect in their operating system. See Col. 5, lines 24 – 29 of Vilsoet et al. and the above rejection of claim 1. Appellant further argues that neural networks are trained, not programmed (p. 9 of Appellant's appeal brief). Firstly, even a neural network must be programmed to learn or train. Any system or platform such as an ACD must be programmed in some sense as any computer must be programmed. Furthermore, as discussed above, while Vilsoet et al. may be

programmed with algorithms, those algorithms program the system of Vilsoet et al. to "learn" over a period of time, how to react/adapt to changing call processing loads/conditions. Appellant's assertion that the outdialing algorithm of Vilsoet et al. functionality may only be changed by reprogramming is accurate. However, this is not issue. The issue instead is how the system of Vilsoet et al. reacts to changing call processing loads which, as discussed above, it clearly does by "learning" over a period of time. Of course, factors that may be considered may have to be reprogrammed in an algorithm, but again such is not the issue at hand here.

Appellant also, without pointing to any specific limitation in the claims as to what a neural network is, relying only on the specification of the instant invention, blindly asserts that Vilsoet et al. does not have a neural network (p. 7 of Appellant's appeal brief), and that the Bigus and Donnelly references either teach the wrong learning and training or teach no training at all. As discussed above, this is an erroneous assertion.

While Appellant has focused the argument on claim 1, they have discussed the Corduroy et al. reference which was applied to claims 3, 12, and 21. As to the Corduroy et al. reference, no assertion was made by the examiner in any office action that it contained a neural network. It was used merely to address the specific limitation that agents could be reassigned to different groups was well known in the art and would have been obvious for one of ordinary skill in the art at the time the invention was made to include such a feature in the invention of Vilsoet et al.

Also, while as mentioned above, Appellant addressed only claim 1 of the instant invention, examiner would like to note that claims 2 – 9, for example, suggest what

Appellant has claimed as a desired resource relationship, i.e., ratio of inbound to outbound calls, a number of answered calls, the number of available agents, etc. While Appellant has suggested that the only resource of consequence in the instant invention are agents (p. 5 of Appellant's appeal brief), these dependent claims indicate such is not the case. They instead indicate that these factors and considerations are also resources that the Appellant's invention considers and uses in its system.

As to Appellant's argument B, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves **or in the knowledge generally available to one of ordinary skill in the art.** See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In addition, a suggestion/motivation **need not be expressly stated** in one or all of the references used to show obviousness. *Cable Electric Products, Inc. V. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985); *In re Sheckler*, 438 F.2d 999, 1001, 168 USPQ 716, 717 (CCPA 1971). It is assumed that every reference relies to some extent on the knowledge of persons skilled in the art to complement that which is disclosed therein. Further, the skilled artisan is presumed to know something more about the art than only what is disclosed in the applied references. In other words, **the person having ordinary skill in the art has a level of knowledge apart from the content of the references.** *In re Bode*, 550 F.2d 656, 660, 193 USPQ 12, 16 (CCPA 1977); *In re Jacoby*, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1969)

This relates to suggestion/motivation in that "having established that this knowledge was in the art, the Examiner could then properly rely ... on a conclusion of obviousness 'from **common knowledge and common sense** of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference'." In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545,549 (CCPA 1969).

Moreover, as already discussed above, the closeness of the functionality and operation of the invention of Vilsoet et al. suggests using a neural network because it in effect "learns" and "trains" over a period of time, how to react to changing call processing conditions.

In response to Appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Appellant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

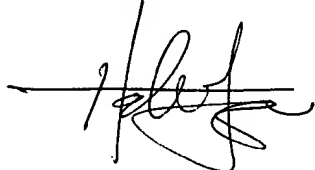
For the above reasons, it is believed that the rejections should be sustained.

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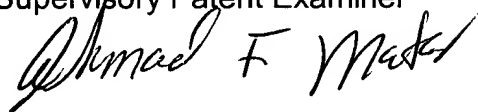
Respectfully submitted,

Hector A. Agdeppa
Patent Examiner

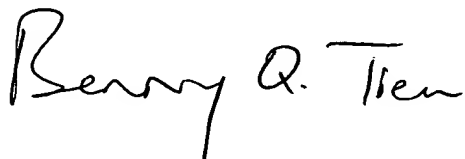
A handwritten signature in black ink, appearing to read 'Hector A. Agdeppa', written over a horizontal line.

January 9, 2004

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